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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/058,777	01/30/2002	Yoshiaki Ohbayashi		4165

7590 03/24/2004  
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EXAMINER
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VALENTIN, JUAN D

ART UNIT	PAPER NUMBER
2877	

DATE MAILED: 03/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/058,777	Applicant(s) OHBAYASHI ET AL.	
	Examiner Juan D Valentin II	Art Unit 2877	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-11 is/are pending in the application.  
     4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |  |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>01/30/2002</u> . | 6) <input type="checkbox"/> Other: ____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claim 1 rejected under 35 U.S.C. 102(b) as being fully anticipated by Roth et al. (USPN '647, hereinafter Roth).

#### **Claim 1**

Roth discloses in conjunction with Fig. 1, an optical connector 10 with a shutter 30 comprising a body composed of an inner housing 26, stamped and formed sheet metal 34, & outer housing (cover) 36 having an insertion and extraction port 26b into and from which a plug 16 serving as a counter optical connector is to be inserted and extracted, and an insertion space for said plug, said insertion space communicating with said insertion and extraction port, an optical device (Fig. 10, refs. 84, 82) which is disposed in said body to be opposed to an end portion of said plug 16 that is inserted into said insertion space, and a void space insertion space to be expanded to a lateral side from said insertion and extraction port, and which is additionally formed in said plug insertion space to be expanded to a lateral side from said insertion and extraction port (col. 3, line 61-col. 4, line 50). Roth further discloses an optical connector comprising a support shaft which is placed in said vacant space, and a shutter 30 which is attached to said support shaft to be openingly and closingly movable 60 about said support shaft between a closing position where said shutter closes said insertion and extraction port in a form

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crossing said insertion space, and an opening position where said shutter is retracted into said vacant space to open said insertion and extraction port, said shutter being always elastically urged toward said closing position (col. 4, line 51-col. 5, line 41). It is inherent within the reference of Roth that a support shaft is used in conjunction with the torsion spring 60 and the shutter door 30 in order for them to mechanically cooperate with each other.

**Claim 3**

Roth discloses wherein an axial direction of said support shaft coincides with a thickness direction of said body (Fig. 6, ref. 30).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 2- rejected under 35 U.S.C. 103(a) as being unpatentable over Roth.

**Claim 2**

Roth as disclosed above further discloses in conjunction with Figs. 6 & 2 an optical connector 10 with a shutter 30 wherein a plate spring 34 (stamped and formed sheet metal) which rides over an outer peripheral face of said plug that is inserted into said insertion space, to be in elastic contact with said plug is disposed in an intermediate portion in a longitudinal direction of said insertion space (col. 4, lines 18-50). It is the position of the Office that the

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stamped and formed sheet metal 34 which mates with the inner housing 26 rides over the outer peripheral face of said plug that is inserted into said insertion space via the inner housing 26.

The mechanical combination of 16, 26, & 34 supports the plug from movement within the adapter assembly 12, which achieves the desired result of Applicant, thereby satisfying the Applicant claimed limitations.

#### **Claims 6-9**

Roth discloses wherein said plate spring is configured by a spring piece, which is formed by cutting and raising a part of a cover (Fig. 8, ref. 34e), further it is the position of the Office that it is well known in the art of sheet metal forming and stamping that cantilevered spring arms (Fig. 7, refs. 34c & 34e) can easily be formed on any desired face or in many desired shapes and sizes in order to maintain a desired mechanical stability and desired alignment within device structure as shown by Roth with regards to the stamped and formed sheet metal 34.

3. Claims 4 & 5 rejected under 35 U.S.C. 103(a) as being unpatentable over Roth in view of Belenkiy et al. (USPN '412 B1, hereinafter Belenkiy).

#### **Claim 4**

Roth substantially teaches the claimed invention except that it fails to show wherein, in said insertion space and said vacant space, a portion including an opening and closing moving path of said shutter is opened in an upper face of said body. Belenkiy shows that it is known to provide a portion including an opening and closing moving path of said shutter is opened in an upper face of said body (col. 3, lines 34-49) for a fiber optic connector receptacle. It would have been obvious to someone of ordinary skill in the art to combine the device of Roth with the opening of Belenkiy for the purposes of providing a mounting means for the shutter assembly

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within the adapter assembly. Accordingly, such modification would have constituted an alternative means/obvious engineering expedience for one of ordinary skill in the art at the time the invention was made.

#### **Claim 5**

Roth substantially teaches the claimed invention except that it fails to show wherein, in said insertion space and said vacant space, an opening port that is opened in said upper face of said body is closed by a cover mounted on said body. Belenkiy shows that it is known to provide an opening port 32 that is opened in said upper face of said body is closed by a cover 34 mounted on said body (col. 3, line 34-col. 4, line 14) for an fiber optic connector receptacle. It would have been obvious to someone of ordinary skill in the art to combine the device of Roth with the cover of Belenkiy for the purposes of providing a mounting means for the shutter assembly within the adapter assembly. Accordingly, such modification would have constituted an alternative means/obvious engineering expedience for one of ordinary skill in the art at the time the invention was made.

4. Claim 10 rejected under 35 U.S.C. 103(a) as being unpatentable over Roth in view of Kalomiris (USPN '753).

#### **Claim 10**

Roth substantially teaches the claimed invention except that it fails to show wherein said shutter is colored, and the coloration of said shutter is observable through said insertion and extraction port. However, the art of the labeling or discriminating parts and components to distinguish different parts and their functions is widely used as shown by Kalomiris which discloses using color coded cable connectors (col. 1, lines 23-39) for fiber optic connector

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assemblies. It would have been obvious to someone of ordinary skill in the art to combine the device of Roth with the color-coded fiber optic connectors of Kalomoris for the purposes of providing proper connection between fiber optic connectors. Accordingly, such modification would have constituted an alternative means/obvious engineering expedience for one of ordinary skill in the art at the time the invention was made.

5. Claim 11 rejected under 35 U.S.C. 103(a) as being unpatentable over Roth in view of Ngo (USPN '697 B1).

**Claim 11**

Roth substantially teaches the claimed invention except that it fails to show wherein said plate spring has a function of serving as a grounding contact. Ngo shows that it is known to provide wherein said plate spring has a function of serving as a grounding contact (col. 3, lines 19-33) for an optical connector. It would have been obvious to someone of ordinary skill in the art to combine the device of Roth with the spring member serving as a ground contact of Ngo for the purposes of providing aligning members within the connector and providing grounding contacts. Accordingly, such modification would have constituted an alternative means/obvious engineering expedience for one of ordinary skill in the art at the time the invention was made.

***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Reference A discusses the use of the housing as a spring like alignment feature to align a fiber to a ferrule within a optical connector. References B-G discuss optical connectors

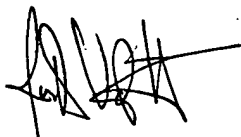
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with shutters in different configurations. References H and I discuss the use a spring plate to align a ferrule within an optical connector in different configurations.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Juan D Valentin II whose telephone number is (571) 272-2433. The examiner can normally be reached on M-Th., Every other Fr..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G Font can be reached on (571) 272-2415. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Juan D Valentin II  
Examiner 2877  
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March 10, 2004



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